



Be Right™

SAFETY DATA SHEET

Issue Date 06-Jul-2016

Revision Date 02-Sep-2016

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1. IDENTIFICATION

Product identifier

Product Name <0.1 NTU Calibration Solution

Other means of identification

Product Code(s)
2659701

Safety data sheet number M02701

Component of Kits or Sets 2659505; 2662105; 2662105SUB; 2897100; 4700000; 4700002; 4700100; 4700102; 4790000; 4790002; 4790100; 4790102; 9657800; 9657900; LDW; LPV444.53.00120; LPV444.53.00210; LPV444.53.00310; LPV444.53.00320; LPV444.99.00120; LPV444.99.00210; LPV444.99.00210K; LPV444.99.00310; LPV444.99.00310K; LPV444.99.00320; LPV444.99.00320K; LPV4449900120; LPV4449900210; LPV4449900310; LPV4449900320; R21S002; TL2300.NA; TL2310.NA; TL2350.NA; TL2360.NA

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory reagent.
Uses advised against None.
Restrictions on use None.

Details of the supplier of the safety data sheet

Manufacturer Address

Hach Company
P.O.Box 389 Loveland, CO 80539 USA
(970) 669-3050

Emergency telephone number

(303) 623-5716 - 24 Hour Service (515)232-2533 - 8am - 4pm CST

Product Information

Chemical Name Not applicable
Formula Not applicable
CAS No Not applicable
Alternate CAS Number Not applicable
NIOSH (RTECS) Number None reported

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not Hazardous

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

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Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Hazard statements

The product contains no substances which at their given concentration, are considered to be hazardous to health

Other Information

Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

The product contains no substances which at their given concentration, are considered to be hazardous to health

Chemical Family Mixture.

Percent ranges are used where confidential product information is applicable.

Chemical Name	CAS No	Percent Range	HMRIC #
Ethyl alcohol	64-17-5	0.1 - 1	-
Methyl alcohol	67-56-1	<0.1	-

4. FIRST AID MEASURES

Description of first aid measures

General advice	In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms persist, call a physician.
Skin contact	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If symptoms persist, call a physician.
Inhalation	IF INHALED: Remove person to fresh air and keep comfortable for breathing. If symptoms persist, call a physician.
Ingestion	IF SWALLOWED: Rinse Mouth. If symptoms persist, call a physician.
Self-protection of the first aider	Use personal protective equipment as required. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed

Symptoms See Section 11: TOXICOLOGICAL INFORMATION.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media No information available.

Flammable properties

Substance does not burn.

Specific hazards arising from the chemical

May react violently with. Strong acids. Strong bases. strong oxidizers.

Hazardous combustion products

This material will not burn.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

U.S. Notice

Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

EC Notice

Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

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WHMIS Notice Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Do not touch or walk through spilled material. Ventilate affected area. Use personal protective equipment as required.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions Avoid release to the environment. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Neutralize spill if necessary. Soak up with inert absorbent material. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Dispose of in accordance with local, state and federal regulations or laws.

Emergency Response Guide Number Not applicable

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Flammability class Not applicable

Incompatible materials Strong acids. Strong bases. Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethyl alcohol 0.1 - 1	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m ³ (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m ³	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m ³
Methyl alcohol <0.1	STEL: 250 ppm TWA: 200 ppm S*	TWA: 200 ppm TWA: 260 mg/m ³ (vacated) TWA: 200 ppm (vacated) TWA: 260 mg/m ³ (vacated) STEL: 250 ppm (vacated) STEL: 325 mg/m ³ (vacated) SKN*	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m ³ STEL: 250 ppm STEL: 325 mg/m ³

Chemical Name	Alberta OEL	British Columbia OEL	Manitoba OEL	New Brunswick OEL	New Foundland & Labrador OEL
Ethyl alcohol 0.1 - 1	TWA: 1000 ppm TWA: 1880 mg/m ³	STEL: 1000 ppm	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1880 mg/m ³	STEL: 1000 ppm
Methyl alcohol <0.1	TWA: 200 ppm TWA: 262 mg/m ³ STEL: 250 ppm STEL: 328 mg/m ³ SKN*	TWA: 200 ppm STEL: 250 ppm SKN*	TWA: 200 ppm STEL: 250 ppm SKN*	TWA: 200 ppm TWA: 262 mg/m ³ STEL: 250 ppm STEL: 328 mg/m ³ SKN*	TWA: 200 ppm STEL: 250 ppm SKN*

Chemical Name	Northwest Territories OEL	Nova Scotia OEL	Nunavut OEL	Ontario TWA	Prince Edward Island OEL
Ethyl alcohol 0.1 - 1	TWA: 1000 ppm STEL: 1250 ppm	STEL: 1000 ppm	TWA: 1000 ppm STEL: 1250 ppm	STEL: 1000 ppm	STEL: 1000 ppm
Methyl alcohol <0.1	TWA: 200 ppm STEL: 250 ppm SKN*	STEL: 250 ppm TWA: 200 ppm SKN*	TWA: 200 ppm STEL: 250 ppm SKN*	TWA: 200 ppm STEL: 250 ppm SKN*	STEL: 250 ppm TWA: 200 ppm

Chemical Name	Quebec OEL	Saskatchewan OEL	Yukon OEL
Ethyl alcohol 0.1 - 1	TWA: 1000 ppm TWA: 1880 mg/m ³	TWA: 1000 ppm STEL: 1250 ppm	STEL: 1000 ppm STEL: 1900 mg/m ³ TWA: 1000 ppm TWA: 1900 mg/m ³
Methyl alcohol <0.1	TWA: 200 ppm TWA: 262 mg/m ³ STEL: 250 ppm STEL: 328 mg/m ³ SKN*	TWA: 200 ppm STEL: 250 ppm SKN*	STEL: 250 ppm STEL: 310 mg/m ³ TWA: 200 ppm TWA: 260 mg/m ³ SKN*

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Legend See section 16 for terms and abbreviations

Appropriate engineering controls

Engineering Controls Showers
 Eyewash stations
 Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Take off all contaminated clothing and wash it before reuse. Wash hands thoroughly after handling. Regular cleaning of equipment, work area and clothing is recommended.

Environmental exposure controls

Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

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Physical state Liquid
Gas Under Pressure Not classified according to GHS criteria
Appearance aqueous solution **Color** colorless
Odor Slight **Odor threshold** No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	No data available	
pH	~7	
Melting point/freezing point	~ 0 °C / 32 °F	Estimation based on theoretical calculation
Boiling point / boiling range	~ 100 °C / 212 °F	Estimation based on theoretical calculation
Evaporation rate	1 (water = 1) Estimation based on theoretical calculation	
Vapor pressure	24.002 mm Hg / 3.2 kPa at 25 °C / 77 °F	Estimation based on theoretical calculation
Vapor density (air = 1)	0.62	
Specific gravity (water = 1 / air = 1)	1	Estimation based on theoretical calculation
Partition Coefficient (n-octanol/water)	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	~ 1 cP (mPa s) at 20 °C / 68 °F	
Kinematic viscosity	~ 1 cSt (mm ² /s) at 20 °C / 68 °F	

Solubility(ies)

Water solubility

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F
Aromatic hydrocarbons	Insoluble	< 0.1 mg/L	25 °C / 77 °F

Other Information

Metal Corrosivity Not classified as corrosive to metal according to GHS criteria

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Steel Corrosion Rate	No data available
Aluminum Corrosion Rate	No data available
Volatile Organic Compounds (VOC) Content	No information available.
Bulk density	Not applicable
Explosive properties	Not classified according to GHS criteria.
Explosion data	No data available
Upper explosion limit	No data available
Lower explosion limit	No data available
Flammable properties	Not classified as flammable according to GHS criteria.
Flammability Limit in Air	
Upper flammability limit:	No data available
Lower flammability limit:	No data available
Flash point	No data available
Oxidizing properties	Not classified according to GHS criteria.
Reactivity properties	Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria.

10. STABILITY AND REACTIVITY

Reactivity properties

Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria

Chemical stability

Stable under recommended storage conditions.

Special dangers of the product

No information available

Possibility of Hazardous Reactions

No information available.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid

Contact with acid or acid fumes. Contact with oxidizers. Extreme temperatures.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

Hazardous Decomposition Products

None known based on information supplied.

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Explosive properties

Not classified according to GHS criteria.

Upper explosion limit No data available

Lower explosion limit No data available

Autoignition temperature

No data available

Sensitivity to Static Discharge

None reported

Sensitivity to Mechanical Impact

None reported

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Product Information	Product does not present an acute toxicity hazard based on known or supplied information.
Inhalation	No known effect based on information supplied.
Eye contact	No known effect based on information supplied.
Skin contact	No known effect based on information supplied.
Ingestion	No known effect based on information supplied.
Aggravated Medical Conditions	None known.
Toxicologically synergistic products	None known.
Toxicokinetics, metabolism and distribution	See ingredients information below.

Chemical Name	Toxicokinetics, metabolism and distribution
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Small amounts are excreted unchanged in urine, sweat and breath. Most is metabolized to acetaldehyde and then to acetate, primarily in the liver.
Methyl alcohol (<0.1) CAS#: 67-56-1	Metabolism of methanol appears to be similar regardless of administrative route. Methanol is converted to formaldehyde, which is converted to formate which is oxidized to carbon dioxide in primates.

Product Acute Toxicity Data

Oral Exposure Route No data available
 Dermal Exposure Route No data available
 Inhalation (Dust/Mist) Exposure Route No data available
 Inhalation (Vapor) Exposure Route No data available
 Inhalation (Gas) Exposure Route No data available

Ingredient Acute Toxicity Data

Oral Exposure Route

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethyl alcohol (0.1 - 1)	Rat LD ₅₀	7060 mg/kg	None reported	None reported	GESTIS (Information System on Hazardous Substances of

CAS#: 64-17-5					the German Social Accident Insurance)
Methyl alcohol (<0.1) CAS#: 67-56-1	Human LD ₅₀	300 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methyl alcohol (<0.1) CAS#: 67-56-1	Rat LD ₅₀	5628 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Human TD _{Lo}	500 mg/kg	None reported	Behavioral	RTECS (Registry of Toxic Effects of Chemical Substances)
Methyl alcohol (<0.1) CAS#: 67-56-1	Human LD _{Lo}	143 mg/kg	None reported	Lungs, Thorax, or Respiration Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Man TD _{Lo}	2660 mg/kg	None reported	Behavioral Altered sleep time (including change in righting reflex)	RTECS (Registry of Toxic Effects of Chemical Substances)
Methyl alcohol (<0.1) CAS#: 67-56-1	Man LD _{Lo}	3.571 mg/kg	None reported	Lungs, Thorax, or Respiration Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methyl alcohol (<0.1) CAS#: 67-56-1	Human LD ₅₀	1000 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methyl alcohol (<0.1) CAS#: 67-56-1	Rabbit LD ₅₀	15800 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)

Inhalation (Dust/Mist) Exposure Route

No data available

Inhalation (Vapor) Exposure Route

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Rat LC ₅₀	8000 mg/L	4 hours	None reported	Vendor SDS
Methyl alcohol (<0.1) CAS#: 67-56-1	Human LC ₅₀	10 mg/L	4 hours	None reported	IUCLID (The International Uniform Chemical Information Database)
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methyl alcohol (<0.1) CAS#: 67-56-1	Rat LC ₅₀	64000 mg/L	6 hours	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Human TC _{Lo}	30 mg/L	4 hours	Peripheral Nerve and Sensation Recording from afferent nerve	RTECS (Registry of Toxic Effects of Chemical Substances)

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Methyl alcohol (<0.1) CAS#: 67-56-1	Human TC _{Lo}	300 mg/L	None reported	Lungs, Thorax, or Respiration Other changes	RTECS (Registry of Toxic Effects of Chemical Substances)
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Inhalation (Gas) Exposure Route

No data available

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Skin Corrosion/Irritation Data

Chemical Name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Standard Draize Test	Rabbit	20 mg	24 hours	Skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)
Methyl alcohol (<0.1) CAS#: 67-56-1	Standard Draize Test	Rabbit	20 mg	24 hours	Skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

Product Serious Eye Damage/Eye Irritation Data

No data available.

Ingredient Eye Damage/Eye Irritation Data

Chemical Name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Rinse Test	Rabbit	100 mg	4 seconds	Eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)
Methyl alcohol (<0.1) CAS#: 67-56-1	Standard Draize Test	Rabbit	40 mg	None reported	Eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

Sensitization Information

Product Sensitization Data

Skin Sensitization Exposure Route

No data available.

Respiratory Sensitization Exposure Route

No data available.

Ingredient Sensitization Data

Skin Sensitization Exposure Route

Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Test method	Species	Results	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Patch test	Human	Not confirmed to be a skin sensitizer	HSDB (Hazardous Substances Data Bank)

Respiratory Sensitization Exposure Route

No data available.

Chronic Toxicity Information

Product Repeat Dose Toxicity Data

Oral Exposure Route No data available.
 Dermal Exposure Route No data available.
 Inhalation (Dust/Mist) Exposure Route No data available.
 Inhalation (Vapor) Exposure Route No data available.
 Inhalation (Gas) Exposure Route No data available.

Ingredient Repeat Dose Toxicity Data

Oral Exposure Route

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Man TD _{Lo}	4623000 mg/kg	4380 days	Brain and Coverings Other degenerative changes	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Human TD _{Lo}	149 mg/kg	4 years	Skin and Appendages Dermatitis	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route No data available
 Inhalation (Dust/Mist) Exposure Route No data available
 Inhalation (Vapor) Exposure Route No data available
 Inhalation (Gas) Exposure Route No data available

Chemical Name	CAS No	ACGIH	IARC	NTP	OSHA
Ethyl alcohol	64-17-5	A3	Group 1	Known	X
Methyl alcohol	67-56-1	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)	Group 1 - Carcinogenic to Humans
NTP (National Toxicology Program)	Known - Known Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	X - Present

Product Carcinogenicity Data No data available
 Oral Exposure Route No data available
 Dermal Exposure Route No data available
 Inhalation (Dust/Mist) Exposure Route No data available
 Inhalation (Vapor) Exposure Route No data available
 Inhalation (Gas) Exposure Route No data available

Ingredient Carcinogenicity Data

Oral Exposure Route

Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Mouse	320 mg/kg	50 weeks	Blood Lymphoma (including Hodgkin's disease) Liver Tumors	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Mouse	400000 mg/kg	57 weeks	Gastrointestinal Tumors	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route

No data available

Inhalation (Dust/Mist) Exposure Route

No data available

Inhalation (Vapor) Exposure Route

No data available

Inhalation (Gas) Exposure Route

No data available

Product Germ Cell Mutagenicity *in vitro* Data

No data available.

Ingredient Germ Cell Mutagenicity *in vitro* Data

Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Sister chromatid exchange	Human lymphocyte	500 mg/L	72 hours	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Methyl alcohol (<0.1) CAS#: 67-56-1	DNA inhibition	Human lymphocyte	300 mmol/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

Oral Exposure Route

No data available

Dermal Exposure Route

No data available

Inhalation (Dust/Mist) Exposure Route

No data available

Inhalation (Vapor) Exposure Route

No data available

Inhalation (Gas) Exposure Route

No data available

Ingredient Germ Cell Mutagenicity *in vivo* Data

Oral Exposure Route

Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Micronucleus test	Human	817600 mg/kg	6 years	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Methyl alcohol	DNA damage	Rat	0.405 mg/kg	None	Positive test result for	RTECS (Registry

(<0.1) CAS#: 67-56-1				reported	mutagenicity	of Toxic Effects of Chemical Substances)
Chemical Name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Methyl alcohol (<0.1) CAS#: 67-56-1	Cytogenetic analysis	Mouse	1000 mg/kg	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route No data available

Inhalation (Dust/Mist) Exposure Route No data available

Inhalation (Vapor) Exposure Route No data available

Inhalation (Gas) Exposure Route No data available

Oral Exposure Route No data available

Dermal Exposure Route No data available

Inhalation (Dust/Mist) Exposure Route No data available

Inhalation (Vapor) Exposure Route No data available

Inhalation (Gas) Exposure Route No data available

Ingredient Reproductive Toxicity Data

Oral Exposure Route

Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Woman TD _{Lo}	4676280 mg/kg	100 days	Effects on Newborn Delayed effects Specific Developmental Abnormalities Craniofacial (including nose and tongue)	RTECS (Registry of Toxic Effects of Chemical Substances)
Methyl alcohol (<0.1) CAS#: 67-56-1	Rat TD _{Lo}	4118 mg/kg	10 days	Effects on Embryo or Fetus Fetotoxicity (except death e.g. stunted fetus) Specific Developmental Abnormalities Ear Eye Urogenital System	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Woman TD _{Lo}	41000 mg/kg	41 weeks	Effects on Newborn Drug dependence Other neonatal measures or effects	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Woman TD _{Lo}	250 mg/kg	37 weeks	Effects on Embryo or Fetus Other effects	RTECS (Registry of Toxic Effects of Chemical Substances)

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Dermal Exposure Route

No data available

Inhalation (Dust/Mist) Exposure Route

No data available

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methyl alcohol (<0.1) CAS#: 67-56-1	Rat TC _{Lo}	0.0026 mg/L	22 days	Effects on Embryo or Fetus Fetotoxicity (except death e.g. stunted fetus)	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Vapor) Exposure Route

Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methyl alcohol (<0.1) CAS#: 67-56-1	Mouse TC _{Lo}	1500 mg/L	7-9 days	Specific Developmental Abnormalities Central Nervous System	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Gas) Exposure Route

No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Based on the classification principles, not classified as hazardous to the environment.

Product Ecological Data

Aquatic toxicity

Fish

No data available

Crustacea

No data available

Algae

No data available

Terrestrial toxicity

Soil

No data available

Vertebrates

No data available

Invertebrates

No data available

Ingredient Ecological Data

Aquatic toxicity

Fish

Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	96 hours	<i>Pimephales promelas</i>	LC ₅₀	14200 mg/L	PEEN (Pan European Ecological Network)
Methyl alcohol (<0.1) CAS#: 67-56-1	96 hours	<i>Pimephales promelas</i>	LC ₅₀	15000 mg/L	IUCLID (The International Uniform Chemical Information Database)

Crustacea

Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Ethyl alcohol (0.1 - 1)	48 Hours	<i>Daphnia magna</i>	LC ₅₀	3715 mg/L	PEEN (Pan European Ecological Network)

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CAS#: 64-17-5					
Methyl alcohol (<0.1) CAS#: 67-56-1	48 Hours	<i>Daphnia magna</i>	EC ₅₀ LC ₅₀	2500 mg/L	IUCLID (The International Uniform Chemical Information Database)

Algae Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	96 hours	<i>Chlorella vulgaris</i>	EC ₅₀	675 mg/L	PEEN (Pan European Ecological Network)

Terrestrial toxicity

Soil No data available
 Vertebrates No data available
 Invertebrates No data available

Other Information

Persistence and degradability
 None known.

Product Biodegradability Data
 If available, see ingredient data below.

Ingredient Biodegradability Data
 Test data reported below

Bioaccumulation
 None known.

Product Bioaccumulation Data Test data reported below.

Ingredient Bioaccumulation Data No data available

Additional information

Product Information

Partition Coefficient (n-octanol/water) Not applicable

Ingredient Information

Chemical Name	Partition Coefficient (n-octanol/water)	Method
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	log K _{ow} = -0.31	No information available
Methyl alcohol (<0.1) CAS#: 67-56-1	log K _{ow} = -0.7	No information available

Mobility

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Mobility in soil: High mobility. If available, see ingredient data below.

Product Information

Soil Organic Carbon-Water Partition Coefficient Not applicable

Ingredient Information

Chemical Name	Soil Organic Carbon-Water Partition Coefficient	Method
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	log K _{oc} = 0.34	Estimation through KOCWIN v2.00 part of the Estimation Programs Interface (EPI) Suite™
Methyl alcohol (<0.1) CAS#: 67-56-1	log K _{oc} = 0.44	No information available

Additional information

Water solubility

Product Information

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Ingredient Information

Chemical Name	Water solubility classification	Water solubility	Water solubility temperature °C	Water solubility temperature °F
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Completely soluble	> 1000000 mg/L	20 °C	68 °F
Methyl alcohol (<0.1) CAS#: 67-56-1	Soluble	> 1000 mg/L	25 °C	77 °F

Other adverse effects

Contains a substance with an endocrine-disrupting potential.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Contaminated packaging Dispose of in accordance with federal, state and local regulations.

US EPA Waste Number Not applicable, U154

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Methyl alcohol 67-56-1	-	Included in waste stream: F039	-	U154

Special instructions for disposal Dilute to 3 to 5 times the volume with cold water. If permitted by regulation. Open cold water tap completely, slowly pour the material to the drain. Flush system with plenty of water.

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Check with local municipal and state authorities and waste contractors for pertinent local information regarding the proper disposal of chemicals.

14. TRANSPORT INFORMATION

DOT Not regulated
TDG Not regulated
IATA Not regulated
IMDG Not regulated
Note: No special precautions necessary.

Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.
If the item is part of a reagent set or kit the classification would change to the following:
UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.
If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

National Inventories

TSCA Complies
DSL/NDSL Complies

TSCA- United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL- Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS Complies
ENCS Complies
IECSC Complies
KECL Complies
PICCS Complies
TCSI Complies
AICS Complies
NZIoC Complies

EINECS/ELINCS- European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS- Japan Existing and New Chemical Substances
IECSC- China Inventory of Existing Chemical Substances
KECL- Korean Existing and Evaluated Chemical Substances
PICCS- Philippines Inventory of Chemicals and Chemical Substances
TCSI- Taiwan Chemical Substances Inventory
AICS- Australian Inventory of Chemical Substances
NZIoC- New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Methyl alcohol (CAS #: 67-56-1)	1.0

SARA 311/312 Hazard Categories

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Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Methyl alcohol 67-56-1	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Ethyl alcohol (CAS #: 64-17-5)	Carcinogen Developmental
Methyl alcohol (CAS #: 67-56-1)	Developmental

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Ethyl alcohol 64-17-5	X	X	X
Methyl alcohol 67-56-1	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA and HMIS Classifications

NFPA	Health hazards - 0	Flammability - 0	Instability - 0	Physical and Chemical Properties -
HMIS	Health hazards - 0	Flammability - 0	Physical hazards - 0	Personal protection - X - See section 8 for more information

Key or legend to abbreviations and acronyms used in the safety data sheet

NIOSH IDLH
 ACGIH
 NDF

Immediately Dangerous to Life or Health
 ACGIH (American Conference of Governmental Industrial Hygienists)
 no data

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Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

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Revision Note None

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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End of Safety Data Sheet

